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MILWAUKEE OFFICE,
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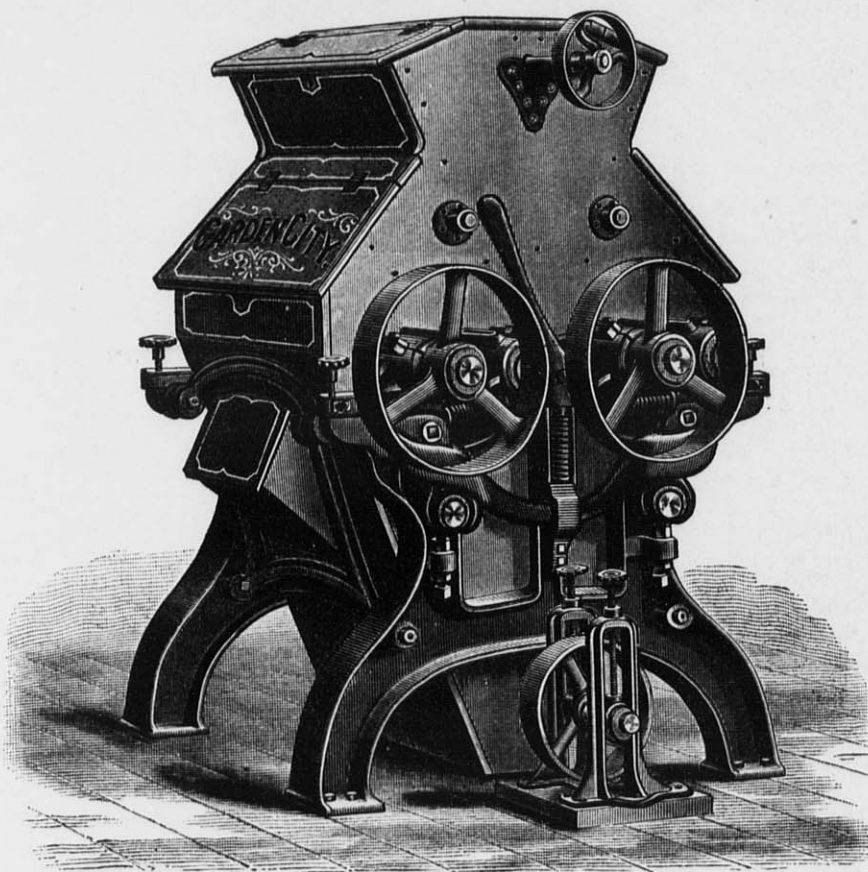
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[From our own Correspondent.]

OUR LONDON LETTER.

LONDON, JUNE 26, 1888.

* * * Next week will be held at Plymouth the Annual Convention of the National Association of British and Irish Millers and four papers are to be read. The paper on the "Selection of Water Motors for Flour Mills" by Alph. Steiger, of London, is very good, indeed, and will no doubt bring out a lively discussion. The paper to be read by Mr. J. Harrison Carter, of London, on his "Pneumatic Sorting System" will be particularly interesting on account of prior usage having been for sometime in question. "Haggenmacher's New Patent Scalper" is the title of the paper to be read by Mr. Henry Simon, of Manchester. According to some accounts Mr. Simon will not read this paper as he does not wish to give any information about the Haggenmacher machine yet, while others say that Mr. Simon will only give a few general remarks on the machine. The subject of the fourth paper, to be read by Mr. J. Salkeld Robinson, is not yet made known. The rest of the four days at the Convention will be given up to pleasure amongst the most beautiful scenery that England possesses. From Plymouth, which is the headquarters of the Convention, the various excursions will start and after the proceedings of the National Association the millers will be allowed to make "Liberty Hall" at seven of the largest mills in the Southwest.

The Haggenmacher "Plansichter" machine, as first constructed, consists of a horizontal sieve or sieves placed one above the other in a frame 10 feet long and 3 feet wide, suspended by 4 iron rods, adjustable, as to their length, and working on ball and socket joints. A swinging or swaying motion that causes every portion of the sieve to describe an elliptic curve is obtained from a vertical shaft supported in an iron hanging frame. On the vertical shaft is fixed the driving pulley and a disc provided with a suitable counter weight to balance the weight of the sieves, and a crank pin which works in a bearing fixed onto a cross piece placed near the centre of the frame containing the sieves. By this means a motion is obtained similar to that of a small sieve shaken by hand.—The silk sieves are divided into small compartments by longitudinal and transverse slats or bars crossing each other at right angles as in a grating. Openings are cut out in the longitudinal bars or slats and in the

cross-bars are formed openings which allow the stock to be bolted and the cleaning material by which the meshes of the silk are kept open, to mingle with the product and travel over the whole surface of the silk. To keep the meshes of the silk clear, a supply of cleaning bodies or material (such as peas, large semolina, or an artificial body, according to the nature of the product being bolted) is mixed with the stock to be sifted. And the action of the driving device directs the cleaning material over the whole surface of the bolting silk and the friction and vibration produced by the sliding and jumping of the material keeps the meshes of the silk clear.

When the apparatus is set to work and supplied by a spout with the material to be dressed together with the cleaning material which is supplied in any desired quantity through another spout or spouts, the two materials travel over the silk surface from one square to another, the stock under treatment passing successively through the meshes of the sieves while the cleaning material, being coarser, remains on the sieves and cleans the meshes, being continually led back through its channels and kept in constant circulation. Mr. Henry Simon, of Manchester, has entered into a contract with Mr. Carl Haggenmacher for supplying the machine to England and her colonies and is to pay a heavy royalty on each machine sold and not to sell less than a certain number a year. That number I cannot yet give, as the excitement produced by the introduction of the machine into England makes the speculation as to number unreliable. However, it is rumored that Mr. Simon has started the manufacture of the machine in this country on a scale which will allow him to place on the market one finished machine per day.

The Scandinavian Elevator Company are very quiet here at the present time, but have obtained a letter signed by a number of the most influential millers of the country, stating that they agree with the scheme. I am, however, still waiting to hear of the millers joining the company financially, but Mr. Walcott informed a friend that he will attend the Millers' Convention next week.

Harvesting has commenced in Eastern Roumelia and the crops promise to be better this year both in quality and quantity than for 20 years past.

Yours Respectfully,

L. MAYGROVE.

CORRESPONDENCE.

Editor United States Miller:

Your June paper came to hand and I read with interest your correspondence from the different cities, but your Buffalo letter broke me all up. That man James L. Barnum is evidently a freak of nature and should travel with the show of his illustrious namesake. I have in my pocket a great big silver dollar which is of the opinion that Mr. Barnum is not a practical miller employed in Buffalo. He may be a miller out of a job; or a newspaper reporter, roustabout, or something of that sort; and if Mr. Barnum will cover my dollar with a like amount, he can make a bet with me. We have millers in our large mills who have more sense than is manifested in the letter of your valuable Buffalo correspondent. I have been using the very same process of splitting and brushing the kernels long enough to know its value and can afford to read all the arguments against it, but in all the reading I have done on this matter I have never come across anything so devoid of practical knowledge as Mr. Barnum's statement to the effect that the writer defies the best known expert to see any change in the color of the flour, when only $\frac{1}{4}$ of one per cent. of impurities were mixed with it.

Do tell; a little matter of a quarter per cent. of dirt indeed. Mr. Barnum evidently would not look for anything less than a ton of dirt to a barrel of flour. Millers, of course, will take no stock in such nonsense and I do not write this letter to save them from a mistake. It would be an insult to them to even suppose they needed it. I only write this to ease my mind, also to give Mr. Barnum the advice to follow the example of correspondents from other cities, who only write on subjects they know something about.

I forgot where I heard or read it; but there is before my mind a story told by some miller of a dog who was looking at a milkmaid at work. Then when she got through and was not looking, the dog did something that he ought not to do, but the milkmaid, when she discovered it, did not mind it a bit, because she was going to strain the milk anyway. I almost forgot that story, but the small per cent. of dirt Mr. Barnum considered as so insignificant, happily kept me from forgetting it altogether. If Mr. Barnum is a single man he should try to become better acquainted with the milkmaid. Their views are likely to agree on a good many points.

C. A. ERAMON.

Minneapolis, Minn.

Editor United States Miller:

Once more I trespass on you, and ask a little space. Arguments are flying around thick in regard to different systems. Now a system is but an idea of the miller operating the mill. One gets results—(when I say results, I mean satisfactory out-put,) with two breaks, another with three, and so on. It has yet to be demonstrated what is the exact manipulation of the different kinds of wheat. Every furnisher of mill machinery has a pet hobby, and their own *peculiar plan to sell their goods*. They are certainly not to be blamed, for business is business. We can take the product from all classes of standard mills, and yet we can see but little difference. The old song: "Little drops of water, little grains of sand" &c., is what tells in making flour. A small leakage, a bran not properly cleaned, will soon cause the miller to say: Oh, there is no money in milling now-days. There is money in it if the leaks are stopped. How to stop them? one would ask. I am a *short system* miller, and have so rather openly stated, but I do say, that I never would have obtained the results in my mill that I have were I not. I use not over $\frac{4}{5}$ of No. 2 wheat to the barrel of flour, (accurate weight, as wheat is delivered to mill, and tested, not by one test but dozens of them,) and I obtain 70 per cent. patent, 27 per cent. of bakers', and 3 per cent. low grade, or running on a high straight grade, I make 97 per cent. and 3 per cent. low grade. Further I could not do this unless I had by close examination, and considerable experimenting, arranged, discovered, invented, or whatever it may be called, a corrugation that would do the work that I considered so necessary to a successful reduction of the grain. Well, that corrugation, mine alone, patented and protected, is what enables me to do a class of work, that with my short system outfit, gives me the opportunity to turn out a grade of flour economically made—that will favorably compare with any of the most elaborately equipped mills in this country.

Mr. Editor, I am a self-made, practical miller, and think I know my business pretty well. I have no desire or wish to self-praise &c., but I have furnished a number of flow sheets to my brother millers, and I do say that every one who has carried out the plan, has been successful. It would be too much of an imposition on you to publish them (you probably would not do it,) or I could furnish you a line of testimonials that would prove my statements. Any of your readers are heartily welcome to them.

Now, Mr. Editor, in order that you may judge intelligently yourself, I took the liberty and mailed you samples of main break chops from a two and three break mill, which will tell you what kind of work is done in such mills right at the start, or head of mill, using my corrugation and system of separation. On examining above samples, you will find that I make a good, clear and clean break, making as much pure flour as possible, even middlings, and then leaving the bran broad and flaky. This obtained, the rest is simple enough. Well, I flatter myself that the corrugation I use will do the business. It will be a pleasure to me to have any of the fraternity come and see me. My mill is always open for inspection, and if I can get a new idea, I will be only too glad.

It strikes me, that the Millers' National Association, should put a stamp of approval or disapproval on every change in milling methods or machines, and so give a chance to those who have something good to offer.

Well, I am inclined to think that I have trespassed on your patience too much, but, Mr. Editor, put it down to ignorance on one hand and a desire to help the trade a mite on the other. I beg to state in conclusion, that I make three breaks on wheat in my mill, and make five reductions on middlings, using a Garden City machine and brush scalper for my first break, and the same company's machines for the thorough cleaning of my wheat.

Should business ever call you to this vicinity, I would be more than pleased to have you call on me and investigate for yourself. I am certain I can surprise you; anyway you shall have a hearty welcome.

Very truly yours,

H. A. HUEFFNER.

Palmer, Ills., July 16th, 1888.

Chicago, July 16, 1888.

Editor United States Miller:

Dear Sir:—I observe in your last issue an item from a correspondent in Buffalo referring to the running of the first break flour into the higher grade. He says it will not make the slightest difference, if you do run the break flour into the higher grades; in other words, he would have us believe, that it don't make any difference, if you run more or less dirt into the flour. There is not a single mill, to my knowledge, in Minneapolis, Milwaukee, St. Louis, Buffalo or Chicago that runs the first break flour into the higher grade; to the contrary, all mills that claim to be modern mills, run their first break flour into the feed, or into their very lowest grades. It is a fact, that in Europe where some of the best modern mills average from ten to twelve different grades, they invariably run the first break flour into the very lowest grade; this is self evident that they are convinced, that it does lower the grade of their product.

It does not require much of a milling experience, to realize that the impurities must be kept out, if they desire a good clear product. Of course, there are a great many mills in this country, where a strictly first class product is not a necessity; and in such mills a difference of several shades, cuts no figure, but to the miller, whose product comes in competition with the best of our flour.—He must use every means to keep up his grade, and keep impurities out of his flour.

To mill builders and mill furnishers our system is as the old adage. "Sour Grapes," for the reason that I control the patents relating to this valuable branch of milling; but to the thinking miller, he knows, that in order to produce clear flour, or the highest grade, it is self evident that he must keep out the impurities. It is a plain question—If you have impurities in the flour, you certainly have not a clear flour. I contend that the present system of bolting and purifying, in vogue in our modern mills, is as near perfection as can be attained, the ground for improvements in this line has been well gone over, and the main fight, and the only ground for improvement, as I have already stated for years, is to remove the impurities before grinding. I know that this idea has been fought bitterly, but I am con-

fident it will be the winner in the end, not through the efforts of mill furnishers, but through thinking and progressive millers.

I can refer with pride, to many mills who turn out the best product in the country, and on this system.

Yours Respectfully,

LOUIS GATHMANN.

GRIST MILL FIRES.—Below we present an interesting extract from the address of Mr. W. A. Holman to the Underwriters' Association of New York State. Mr. Holman is a thorough underwriter, and is an expert upon New York State hazards: "A personal examination of over six hundred flour and grist mills in the State during the last three or four years shows some interesting features bearing, as I believe, upon the question of incendiarism. If a line be drawn at Utica north and south so as to divide the State into an eastern and western division, and the losses on these mills classified, it will be found that five mills burn west of the line to one east of it. As a rule, the country mills in both divisions are feed mills, making little attempt at flouring; but in the eastern division the mills have been through the changing process and have been sold and bought on a low basis of value, below cost, and so low in fact as to be fairly remunerative, doing purely a feed business. In the western division the mills, as a rule are still struggling along with mortgages equal to if not over actual value, and, although in better physical condition, burn, as many of us can testify, as rapidly as the adjusters can reach them. With the physical risk in favor of the Western mills, the frequency of fires among them under the circumstances just cited must be due largely to moral hazard, and we all recognize the bearing of moral hazard to incendiarism. There are but few cases where we can point so surely to incendiarism as in this class; but with these circumstances we are forced to believe that the greater proportion of grist mill fires come from this cause."

POINTS IN MILLING.

Whatever may be said in favor of heating grain before grinding it, millers who have tried heating and who have followed to the bakers the flour made from heated grain assert that the product is decidedly damaged by sharp heating. It would be a rash man who would claim that heating the floury parts of wheat up to near "sweating" point could have a good effect on the product. The heat can not be expected to exert a mere mechanical effect on the flour particles and stop at that. There is a chemical effect to be taken into consideration that is important and not to be ignored. The heat that is intense enough to toughen the bran and facilitate the separation of the bran and the flour will be intense enough to set up chemical changes in the flour. It is doubtful that heating can be defended on scientific grounds. Grain that "heats" in the elevator or on passage beyond a certain degree is considered damaged. Flour that "heats" is considered spoiled. Chemical changes cause heat in flour and grain, and heat will start chemical changes that seriously impair the keeping quality of both grain and flour. The time for cooking flour is not in the grinding. Keep the grain as cool as possible before and during the process of grinding if it is desired to produce the best quality of flour.—*Milling World*.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.
H. O. PARKS, ASSOCIATE EDITOR.

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MILWAUKEE & CHICAGO, JULY, 1888.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

HEAD millers in mills having a capacity of 150 bbls. or more will find it to their advantage to send us their addresses with name of firm employing them, etc.

WE regret that we are unable to publish the third article on "Power Transmission Machinery," by A. J. Shaw, M. E., in this number, the necessary engravings not being completed in time.

H. A. HUEFFNER, of Palmer, Ill., patented a peculiar style of cut for rollers in roller mills sometime ago, and they have been introduced in a number of mills, producing astonishingly good results. From the samples we have seen and shown to others expert in the business, there appears little doubt but that Mr. Hueffner has made a valuable discovery in roll cutting.

ALL persons desiring to reach the entire milling and grain trade of America, by circular or otherwise, should obtain a copy of CAWKER'S AMERICAN FLOUR MILL AND ELEVATOR DIRECTORY FOR 1888.

WE have received Bulletin No. 1, of the Agricultural Experiment Station of the University of Illinois. This Bulletin is devoted principally to outlining the future scope of the work of the Station. Wm. L. Pillsbury of Champaign, Ill., is the Secretary. We shall look forward to the issue of future Bulletins with interest.

THE constitutionality of the new McEvoy Elevator law which recently went into force in New York is now being tested in the courts. Whichever way the case is decided in the lower court, it will be carried to the Court of Appeals for final decision at the earliest possible date. The new law allows but 4c. per bushel for handling grain. The penalty for violation is \$250 for each boat-load handled in violation of the law.

THE UNITED STATES MILLER is the ONLY milling journal in America that has published four consecutive editions of 10,000 copies, each and is ABLE and WILLING to PROVE it to any advertiser. We feel justified in continu-

ing to issue the 10,000 right along. Our journal is not a large one, but it is a good one and reaches nearly all the flour mills and grain elevators in this country. Advertisers should make a note of this.

In a letter (recently received) to the editor of THE U. S. MILLER, from Calcutta, India, the writer, a thoroughly well informed gentleman says, "the quality of flour which the flouring mills here turn out, shows that there is great room for improvement and a necessity for modern flour milling machinery. There are five flour mills of considerable capacity in Calcutta."

THE Annual Meeting of the agents of the Northwestern Mutual Life Insurance Company, from all sections of the country, has been held in this city this month. It was an interesting gathering of shrewd businessmen.

THE scale has been signed and the Bay View Rolling Mills, in this city, will again start up in a few days. This will set a great number idle persons at work again.

THE Co-partnership heretofore existing between L. M. Robinson and B. S. Preston, at Roxbury, N. Y., under the firm name of Robinson & Preston, Millers and Grain Dealers, was dissolved on the 30th day of June, by mutual consent—Mr Preston retiring. The business will be continued at the same place as before by L. M. Robinson.

MIXERS' WHEAT.

A good deal of discussion of the above subject has been going on lately and the following remarks by E. P. Bacon, one of the best known Milwaukee dealers, hits the question about right. He says:

"There is a great misapprehension about mixers' wheat. The mixers take the wheat which comes in here from the country in an unmerchantable condition, clean it up, and if it is necessary to add a little wheat which is above the No. 2 standard, in order to bring it up to the standard, they do it. The fact is they are simply doing what farmers and shippers neglect to do to make the wheat merchantable. A great many country shippers have not the facilities for cleaning the wheat. Wheat when put into the Milwaukee elevators by the mixers is inspected very rigidly, and is not only required to weigh one pound more per bushel than that received by rail, but it is required to be equal in quality in every respect to the average wheat of the same grade which is received by rail. The mistaken prejudice about mixers' wheat has no doubt had influence on the Milwaukee market, but the fact is that when wheat has been shipped to New York and sold side by side with Chicago No. 2 it has invariably sold even with it or 4c to 1c per bushel above it. Nine-tenths of the wheat which arrives at Chicago is cleaned and mixed in the same way in the country. The question is often asked why No. 2 wheat at times rules higher at Chicago than here. The fact is it is not wheat that is dealt in, but speculative contracts, nominally for the delivery of wheat during a specified future month, which contracts are bargained back and forth at the pleasure of operators; their reciprocal cancellation being effected by settlement of differences prior their maturity, probably in

ninety-nine cases out of a hundred. In the markets in which such contracts are dealt in more extensively quotations will naturally rule higher. Operators care but little what relation quotations bear to the real value of the property ostensibly represented by the contracts, their purpose being simply to close them out any moment their supposed interest may dictate."

POINTS FOR ENGINEERS.

The Safety Valve: The feed water should be introduced into a boiler through an internal feed pipe, with perforations, in order to distribute the water more perfectly. The perforated pipe should be a few inches below the water level, and the perforations should not be nearer to either head than one-quarter of the length of the boiler, and should be on the upper side of the pipe.

When mud drums are used they should be made of lap-welded tubes, of not more than 14 or 16 inches in diameter, so that there will be no external or internal grooving, and, if the feed water is not led into them—and it never should be—there will be little or no corrosion.

If possible, mud-drums should always be situated outside of the brickwork of the boilers, and the connection should be made with an elbow pipe, the bottom of the boiler being reinforced at the connection; this will prevent cracking at the flanges of the connections, especially when the flanges are well rounded and of considerable width.

If the front or back heads of the boiler are found to be rounded out, or bulged, there is a great probability that the flange of the head, or the flue, as the case may be, is cracked upon the inside.

Flue boilers, and in fact all boilers using bituminous coal, should frequently be carefully examined along the water line, as a drop in the water level only for a very few moments may produce softening of the iron and consequent distortion.

For convenience in handling the coal, the length of a furnace should not exceed 5½ feet, and 5 feet is preferable.

The front of a grate should be about 30 inches above the bottom of the ash pit.

The volume of a furnace above the grate, in ratio to 1 square foot of grate, should be from 2.75 to 3 cubic feet for coal; but with wood as fuel it should be from 4.6 to 5 cubic feet.

It should be remembered that the useful amount of heat that can be obtained from a ton of coal depends very materially upon the condition of the grate upon which it is consumed. If you have the best coal and an inferior condition of grate, the efficiency of the coal may fall 20, or even 80 per centum.

Oxidation is one great source of deterioration in boilers, and is caused by the air held in the water, the process being hastened and intensified by the heat and pressure. That the corrosion of boilers is caused by the oxygen liberated from the water is shown by the fact that its specific gravity is greater than steam (nearly double) and therefore it would naturally remain near the water line; and it is found that the corrosion is nearly always greater at that point.

The use of rain water in a boiler, twice a week or oftener tends to loosen scale and prevent its formation.

MILLERS' NATIONAL ASSOCIATION.

SECRETARY'S OFFICE,
MILWAUKEE, WIS., July 5, '88.

MEETING OF THE EXECUTIVE COMMITTEE
MILLERS' NATIONAL ASSOCIATION AT
GRAND PACIFIC HOTEL, CHICAGO, JULY
3d, 1888.

In response to a call issued by direction of the president, the following members of the Executive Committee were present: Alex. H. Smith, Missouri; F. L. Greenleaf, Minnesota; H. L. Halliday, Illinois; S. H. Seamans, Wisconsin; F. W. Stock, Michigan; N. Elles, Indiana; C. H. Seybt, president, ex-officio.

Meeting called to order, C. H. Seybt in the chair.

C. H. Seybt presented the draft of a circular letter, which reads as follows:

To Every Millowner in the United States:

Through the general adoption of modern milling machinery, the mechanical part of our business has undergone no greater change than the commercial department.

In former times the individual skill of a miller could produce flour worth a dollar per barrel more than perhaps his next door neighbor was able to do. At present a hundred brands of as many mills will scarcely differ ten cents in their intrinsic value.

In former years the miller was justified in being exclusive and in jealously guarding the secrets of his trade. At present he has no secrets to guard; all the world knows what he pays for his wheat, how he makes his flour and what he has to sell it for. We are all on one level now. We only differ through local conditions and through our respective commercial qualifications—machinery serves us all alike.

The reasons for "padding one's own canoe" have entirely disappeared, while the milling business of the present day cries aloud for a combining of our interests and of our forces. In proof of it, we can see the many local organizations formed and being formed in different sections of the country; their objects to lessen local competition and to overcome the hardships of the trade by combined effort.

Such local associations should spread over the entire milling territory; they are the only means of preserving the home trade, both for wheat and flour. Frequent meetings are necessary to make such associations compact and to engender confidence and friendship among the neighboring millers; without such confidence and close relationship, there can be no unity of action.—One day devoted in each month to local association affairs will soon prove itself productive of more good, than the hardest days work in the mill-office.

The State Associations should meet at least twice a year and as such meetings would comprise delegations from all the different local associations, the requirements and demands of the different sections could be made to adjust themselves to a common basis, there would then be no friction between them; their interest and aims would be identical.

For the protection and regulation of the general flour trade, both in this country and in foreign lands, all localities, districts and

states must find their common support in the Millers' National Association, whose arm is strong and far-reaching enough to correct in the course of time all the abuses of the trade. Whatever improvement is brought about through the intervention of the National Association will rebound to the direct benefit of every miller in the country, the freer the flow of flour into foreign countries and the better regulated the trade is in the South and East, the less temptation there will be for the merchant miller to enter the retail business and to crush with his ponderous weight the small, modest country miller, who on the other hand, if undisturbed in his field, will not be forced to burden the market by his random consignments and by distress lots.

The officers of the Millers' National Association have been called upon personally, through letters, through the milling press, through the voice of the National Convention at Buffalo, to become the medium for a general revision of the commercial part of the milling business. The call has been loud and long, here is our answer:

A government can only be strong and effective, if its citizens are strong and patriotic. The Millers' National Association can only bring about the needed reforms, if a majority of all the millers in the country are faithful, active members. You are hereby requested, if you are not already a member, to fill out the enclosed blank and to remit the called for amount as your membership fee. With sufficient funds on hand and backed by the requisite number of members, the National Association will devote its whole energy towards bettering the conditions of the commercial part of the milling business. It is proposed to open up a Central Office at Chicago under the management of a competent, salaried officer, this office to represent the National Association in continued session, so to say. Every individual member, every local, district or state association, can at any time find a general hearing there and get such relief as the circumstances may call for. Every effort will be made to develop local organizations and to harmonize whatever differences there may be between them. All practical reforms originating among the local organizations will be made general through the Central Office, any one section being too sorely pressed by outside competition can rely upon the good services of the Central Office for relief. All well authenticated cases of extortion, questionable practices or fraud experienced by the millers, should be reported to the Central Office, where a full record will be kept accessible to all members of the Association. The Central Office will devote much attention to the department of transportation and will exert the full influence of the National Association in protecting the rights of the Shippers against any unreasonable and arbitrary action by transportation companies. If in the course of time the Association should be ripe for the question of adjusting the production to the requirements of the market, then the Central Office will prove the only medium, through which such a plan could assume practical shape.

There is hardly a limit to the usefulness of such a Central Office, it should become a friend, counsellor and protector to every

miller and as the membership fee is a nominal sum, we trust that every intelligent and fair-minded miller will join hands with us.

C. H. SEYBT, President.

HOMER BALDWIN, Ohio,
ALEX. H. SMITH, Missouri,
H. L. HALLIDAY, Illinois,
F. W. STOCK, Michigan,
F. L. GREENLEAF, Minnesota,
S. H. SEAMANS, Wisconsin,
N. ELLES, Indiana,

Ex. Com.

After which the following resolutions were unanimously adopted:

Resolved, That the circular letter as presented be printed, and the secretary is hereby instructed to send the same in connection with printed slip furnishing detailed information regarding membership to all millers in the United States.

Resolved, That the secretary is hereby instructed to correspond with all state or local organizations not at present members of the association, with the view and for the purpose of uniting them with the National Association.

Resolved, That new members be admitted from any state to membership in the National Association direct, whether members of state or local organizations or not, but when admitted, the secretary of the National Association shall report such membership to the officers of the state or local organizations in the territory from which they are admitted.

SECRETARY AND TREASURER.

S. H. Seamans being duly nominated, upon vote being taken, was unanimously elected to fill the position for one year.

SUB-EXECUTIVE COMMITTEE.

The following members of the Executive Committee were duly elected as members of the Sub-Executive Committee for the ensuing year: F. L. Greenleaf, Minnesota; S. H. Seamans, Wisconsin; Alex. H. Smith, Missouri; A. R. James, New York; Homer Baldwin, Ohio.

OFFICIAL NEWSPAPER.

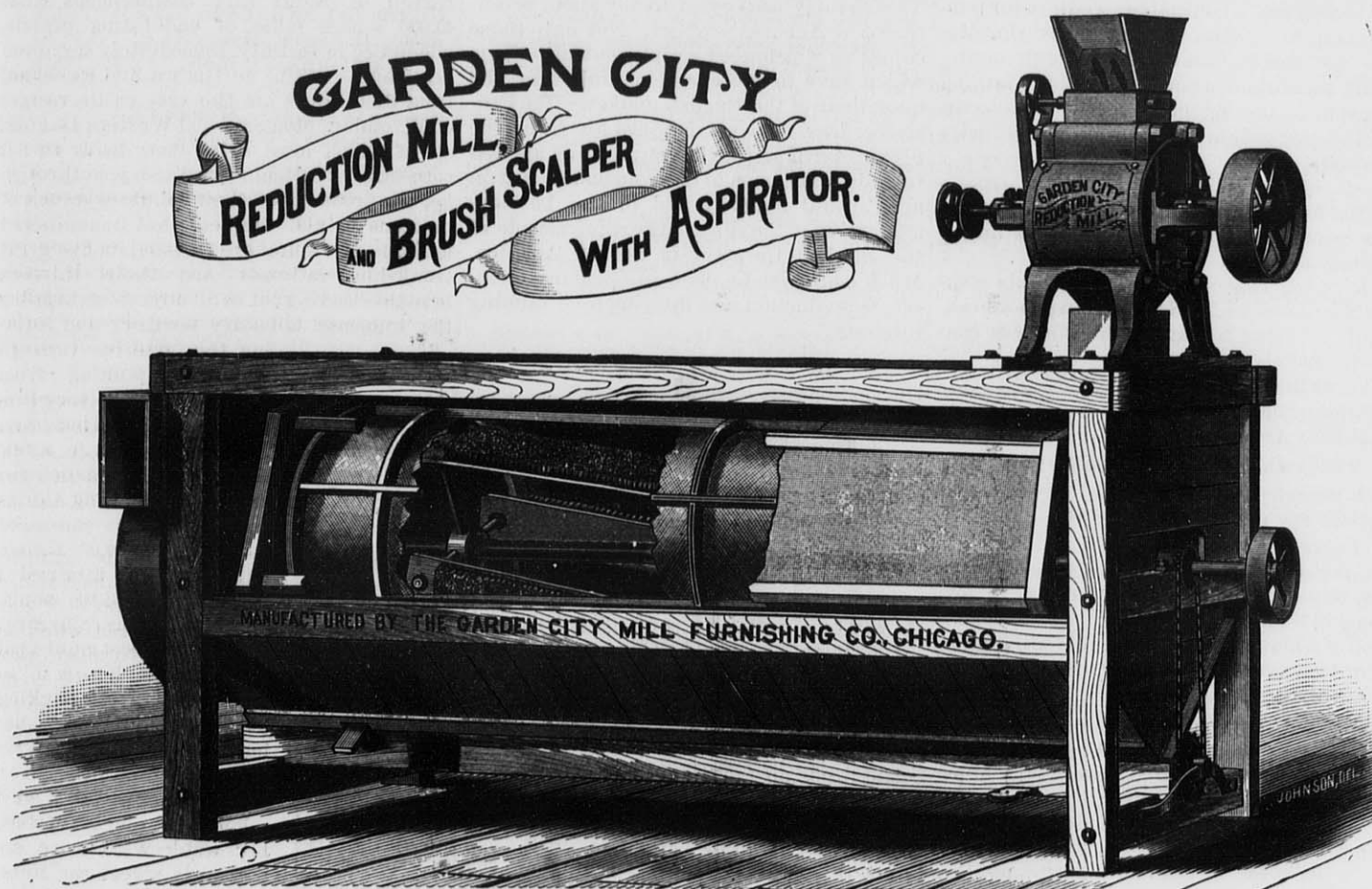
Communications and petition were presented by members of the milling press protesting against any one member of the press being designated as the official newspaper of the association. A discussion of this matter developed the fact that although the *Northwestern Miller* had been nominated by the executive committee as the official newspaper of the association, as the convention by their action at St. Louis had taken the matter out of the control of the committee, they did not feel authorized to interfere with the management as at present existing, in accordance with this state of facts, the following preamble and resolution were adopted:

Whereas, the *Northwestern Miller* was duly elected the official newspaper of the National Association by the Executive Committee at their meeting in Chicago, 1886, and

Whereas, the convention at St. Louis the following year unanimously confirmed such action, and

Whereas, a number of state and local organizations have since selected the *Northwestern Miller* as their official newspaper, therefore be it

Resolved, That this committee does not feel justified in taking any steps looking toward a change of the action of the convention at



They are in operation in over One Thousand Roller Mills.

They are in operation in over Two Thousand Burr Mills.

For Prices and Further Information, Address

✱ **GARDEN CITY MILL FURNISHING CO.,** ✱
CHICAGO, ILL.

St. Louis, but refer the whole matter to the next annual convention for their consideration. The committee, however, reiterate their instructions to the secretary to furnish, as heretofore, all official proceedings for publication to all the milling press simultaneously; and the committee will duly appreciate the future co-operation of the milling press in furthering the prosperity and success of the association and the milling industry as well.

CENTRAL OFFICE.

The following resolution fixing Chicago for the location of the central office was unanimously adopted:

Resolved, That in the opinion of this committee the city of Chicago, being most centrally situated to handle the business contemplated, is hereby fixed upon as the location for the central office of the Millers' National Association.

MANAGER.

Although several applications for the position of manager were presented, the fact that the office can not be put in operation for some little time, the selection of a manager was postponed for a future meeting.

There being no further business, the meeting adjourned.

Respectfully submitted,
S. H. SEAMANS, Secy.

GERMAN VIEW OF AMERICAN COMPETITION.

Professor Sering, a distinguished German authority, in a work recently published, reviews with much care the condition of agriculture in the United States and comes to the conclusion that, notwithstanding contrary arguments and the greater difficulties at present encountered in America (and he criticises severely our land policy and the acquirement of great tracts of land by capitalists and railroad companies), American competition after all must be looked upon as controlling the grain market of the world. The Professor states that it is true that the competition of America as far as Germany is concerned has become more and more insignificant. America supplied in 1881 more than 31 per cent. of German wheat import, to which must be added 17 per cent. credited to Belgium, Holland, Hamburg and Bremen. In 1886 the amount was reduced to 6 per cent. of direct import and 20 per cent. from Belgium, Holland, Hamburg and Bremen, which doubtless embraced less of the American product than in 1881. The direct participation of Russia, which was 24 per cent. in 1880 increased to nearly 52 per cent. in 1886, chiefly the result of lower freight rates; even at Mannheim, in South Germany, Russian wheat can be sold cheaper than the wheat coming from the west of America. Besides the increase of Russian imports, rich harvests in Germany have within the latter years decreased American imports.

But Professor Sering thinks American production controls chiefly price quotations, owing to its influence upon the most important grain market of the world, England. This country uses continually about seven-tenths of America's export. Not only those countries which need supply, but also those which have to spare, are controlled by the quotations of the English market. The Professor does not feel inclined to favor the present tariff system in Germany as applied to grain and comes to the conclusion that in agricultural industry and in the business adaptation of the same to the requirements of the market, Germany is behind America. Much could yet be done in Germany to increase production and thus improve farming interests.



CORN PALACE, SIOUX CITY, IOWA.

SIOUX CITY, IOWA.

THE CORN PALACE CITY.

During the past ten years the East has been sending the bone, the sinew, the intellect, in fact the very cream of her population into the great Northwest. Hundreds of thousands of these very desirable citizens have been lured by the fascination of Western Iowa, Northern Nebraska and Southern Dakota and Minnesota (the cornland of the world) into taking up permanent residence therein. Here their strong arms and brains have been ardently engaged in building cities, towns and villages, improving the prairies and testing the fertility of the most wonderful deposit of soil nature ever vouchsafed to man. The inevitable result of the development of this region has been a steady growth toward trade, independence and an imperative demand for trade center. Nor can the wisdom of nature's ruler be questioned in its supply; for in the very midst of this luxurious corn region, where the rushing waters of the turbulent Missouri come freighted with the riches of Dakota and Nebraska,

and with a majestic sweep first break upon the soil of Iowa, they lave the fairest and justly the proudest City of Columbia.

Justly the proudest, for the delightful citizen of Sioux City comprehends that 40,000 square miles of undulating prairie, unequalled in fertility, immediately surround her, and stretching northward and westward from their limits are the vast cattle ranges of Wyoming, Montana and Western Dakota, all of which must drive their herds to her corn-crib for fattening, and also pour through her the products of their fabulous mines of precious metals. He sees that unnumbered millions of capital are invested in five great trunk-line railroads and their thirteen branches leading out in all directions, tapping the immense tributary territory and forming

the arteries through which are pouring from every channel the very life-blood of trade and industry. He marvels that in a few short years this, his beloved queen city of King Corn's dominions, has embraced an area of 30,000,000 square miles and has attained a population of 35,000 souls, all happy in the enjoyment of one of the best municipal governments known to men. Her great packing houses and stock yards, her immense jobbing interests and manufactories, her excellent churches and schools, her elegant hotels, her water works, fire department, street car lines, electric lights and all the varied excellencies of her unparalleled growth are all matters of wonder to the visitor who is aware of the fact that this city is scarcely a score of years old.

The Second Annual Festival, on which occasion a new palace will be dedicated, will open September 24 and close October 6. All

who can should visit Sioux City between these dates and view the palace of "King Corn."

THE NEW YORK DAILY GRAPHIC has started a new feature, "Our Poet's Corner," and, as THE GRAPHIC announces, "the department is expressly designed for the profit and celebration of our poetic contributors," in which it is intended to publish all the verses sent that paper. This is, we believe, the first attempt of any metropolitan daily to encourage the development of American poetical genius and will certainly "fill a long felt want" as well as increasing the already exceedingly great popularity of THE GRAPHIC.

Here is an opportunity for our local poets to become celebrated by sending their effusions written on one side of the sheet to the Poetry Editor of THE GRAPHIC, New York.

EXPORTING millers should write to the Riverside Printing Co., Milwaukee, Wis., for the best Flour and Cable Code ever published. There are more copies of this Code in use than of ALL other flour codes published. It is simple and accurate.

AN AUTHENTIC BUYERS' GUIDE.**MILL AND ELEVATOR BUILDERS,
MILL FURNISHERS, MANUFACTURERS OF AND DEALERS IN
MILL AND ELEVATOR MACHINERY AND SUPPLIES.**

Cards will be inserted under this heading in the "U. S. Miller," not exceeding three lines, copy of paper included, for FIVE DOLLARS per year, cash with order. Additional lines, \$1.00 each, per year.

Edw. P. Allis & Co., Milwaukee, Wis., builders of complete Flour Mills, manufacturers of Flour Mill Machinery, and dealers in Supplies of every description. [Mr. 89.]

Garden City Mill Furnishing Co., Chicago, Ills., Mill Builders, manufacturers full line of Flour Mill Machinery, dealers in Mill Supplies, Bolting Cloth etc., etc. [Mr. 89.]

Jonathan Mills M'g. Co., Cleveland, O., manufacturers of Milling Machinery, dealers in Mill Supplies, Bolting Cloth, etc. [Mr. 89.]

Borden, Selleck & Co., 48 & 50 Lake st., Chicago, Ills., manufacturers of "HARRISON CONVEYOR" for Grain, Malt, etc., etc. [Mr. 89.]

Haseltine Mill Furnishing Co., Minneapolis, Minn., manufacturers of "MCANULTY FEEDERS" for Rolls, etc., etc. [Mr. 89.]

John C. Higgins & Son, 165 West Kinzie Street, Chicago, Ills., mfrs. of and dressers of Mill Picks. [Mr. 89.]

H. P. Yale & Co., Milwaukee, Wis., Manufacturers' Agents of Engines and Boilers, New York Leather Belting Co.'s Leather Belting, Dodge Wood Pulley.

Poole & Hunt, Baltimore, Md., manufacturers of Steam Engines, Water Wheels, Flour, Corn, Paper, Saw and Cotton Mill Machinery.

W. J. Clark & Co., Salem, O., manufacturers of "SALEM" Elevator Buckets, etc.

Thornburgh & Glessner, 18-22 N. Clinton St., Chicago, Ills., manufacturers of Mill and Elevator Supplies.

R. C. McCulley, (P. O. Box 214) Lancaster, Pa., manufactures Cob Crushers, Cooper's Stoves, Castings, Patterns, etc. [Mr. 89.]

B. H. & J. Sanford, Phoenix Iron Works, Sheboygan, Falls, Wis., manufacturers of the "IMPROVED WALSH DOUBLE TURBINE WATER WHEEL." [Mr. 89.]

John C. Kilner, York Four dry and Engine Works, York, Neb. Mill and Elevator machinery of all kinds, Engines, Boilers, Pulleys, Shafting, etc. [Mr. 89.]

The Gutta Percha and Rubber Mfg. Co., 159-161 Lake st., Chicago Ill., Belting and Rubber Goods. [Mr. 89.]

The Avery Elevator Bucket Co., sole owners and manufacturers of Seamless Steel Elevator Buckets, Wason, Lake and Dart sts., Cleveland, O. [Mr. 89.]

Richmond Mfg. Co., Lockport, N. Y., manufacturers of Grain Cleaning Machinery, Bran Dusters etc. [89. Mr.]

N. Y. Belting and Packing Co., N. Y. Leather Belting Co., Goulds & Austin, Agents, 167 and 169 Lake Street, Chicago. [Apr. 89.]

Weller Bros., 94 Wendell st., Chicago. M'frs Mill and Elevator specialties, Cups, Boots, Spouts, Steel Conveyors, Power Grain Shovels; dealers in Cotton and Rubber Belting, etc. [Apr. 89.]

The Nordyke & Marmon Co., Indianapolis, Ind., Flour Mill and Mill Machinery builders, and dealers in Mill Supplies of all kinds. [May 89.]

The Case Manufacturing Co., Columbus, O., Millbuilders and manufacturers of a full line of Flour Mill Machinery, Mill Supplies, etc. [May 89.]

The Shields & Brown Co., 240 and 242 Randolph st., Chicago, and 143 Worth st., New York. Mfrs. of Sectional Insulated Air Coverings for steam, gas, and water pipe, etc. [May 89.]

W. G. Avery M'g Co., 10 Vincent st., Cleveland, O., Specialties: Avery Lever Belt Punches, Avery Seamless Elevator Buckets, Belting, Elevator Bolts, &c. [May 89.]

The H. J. Deal Specialty Co., Bucyrus, Ohio. Headquarters for Flour and Grain Testing Appliances, and Specialties for the Milling, Flour and Grain trades.

SECOND HAND MACHINERY WANTED.

Any parties having second hand engines, boilers, pumps, etc., are requested to send lists and prices for sale, rent or exchange, are requested to correspond with me. Any one desirous of purchasing second hand mill machinery or a mill, farming land or other property, will find bargains by correspondence with me. Address

A. J. MAYNOR, Woodland, Ill.

**EXPORT AND MERCHANT MILLERS
AND MANUFACTURERS OF
WHEAT, RYE AND BUCKWHEAT
FLOURS, AND CORN MEAL AND
CORN PRODUCTS, (WITH NAMES
OF SPECIAL "BRANDS" MADE) DE-
SIRING CORRESPONDENCE WITH
SOLID HOUSES WITH A VIEW TO
TRADE.**

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J. B. A. Kern & Son, "Eagle Mills," Milwaukee, Wis. WHEAT FLOUR BRANDS—Patents: "Success," "Kern's," Bakers: "Triumph," "High Ground," "Eagle." RYE FLOUR BRANDS—"A Rye," "1 Rye," "Rye." Hard wheat flour and roller process rye flour SPECIALTIES. [Apr. 89.]

E. Sanderson & Co., "Phoenix Mills, Milwaukee, Wis., U. S. A. Manufacturers and Exporters of choice spring wheat flours. Daily capacity 1500 barrels. [Apr. 89.]

Bernhard Stern, "Jupiter Mills," Milwaukee, Wis. Roller Mill. Hard wheat Patents. Principal brand, "Jupiter." [Apr. 89.]

Faist, Kraus & Co., "Duluth Roller Mill," Milwaukee, Wis., Manufacturers and Exporters of choice spring wheat flours. Daily capacity 1500 barrels. [May 89.]

Russell, Andrews & Birkett Penn Yan, N. Y. Manufacturers of roller process Rye and Buckwheat flour. Absolute purity guaranteed. Write for prices. [Apr. 89.]

Texas Star Flour Mills, Galveston, Texas. Patents: Tidal Wave, Neptune, etc. Extra Fancy: Sea Nymph, Undine. Extra Choice: Sea Jewel, Melite. Family: Sea Pearl, Hera.

Grand Forks Roller Mills, Grand Forks, Dak. Situated in the heart of the Red River hard wheat section. Correspondence solicited.

C. A. Gambrell Mfg. Co., Baltimore, Md. Best Patent: Patapsco Superlative. Patent: Patapsco Family. Tropical Export Grade: Chesapeake. High Grade Extra: Orange Grove.

Taylor Bros. & Co., Merchant Millers, Quincy, Ills. Capacity 1,000 barrels per day. Winter Wheat Flour exclusively.

**Prominent Flour, Grain and Provision Brokers,
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of Wheat, Rye and Buckwheat Flours, and
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S. P. Thompson & Co., 218 Patterson st., Baltimore, Md. Flour and Grain Commission.

Magor Bros. & Co., Produce Exchange, New York, Shipping and Commission, Flour, Grain and Provisions.

W. K. Sherwood, Flour and Grain Commission, 18 South Commercial Street, St. Louis, Mo. [Apr. 89.]

L. R. Hurd, Shippers of Minnesota and Dakota Spring Wheats, Minneapolis, Minn., Possessing a thorough and practical knowledge of the *Economical and Flour Producing Qualities* of all wheats grown in the northwest. I am enabled to make purchases with special reference to these qualities.

For Sale or Exchange**AT THE PRICE OF OLD MACHINERY.**

A fine 5-story Roller Mill 5-story Elevator, Shipping Houses, Warehouse, Cooper Shops, Barns, Saw and Planing Mills. Flour Mill is 200 bbls. All latest improved machinery. 80-h. p. Engine, 60-h. p. Engine, Saw Mill Machinery, etc. New buildings on 5 acres of ground. Will trade or sell. Address, W. C. BORCHSENIUS, Baldwin, Wis. [Jy. pd.]

FOR SALE.

The "Pipestone Roller Mills," 50 barrels' capacity, water power, one and one-quarter miles from Pipestone Station, on the C. W. & M. R. R., ten miles from St. Joseph and Benton Harbor, and eight miles from Berrien Springs, the county seat, in the finest winter wheat section in Southwestern Michigan. The mill was rebuilt one year ago to the roller system. Local orders and exchange keep the mill running steadily. For further information, address, PUTNAM BROS., Pipestone, Berrien County, Mich. [Jy.-Aug.]

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CINCINNATI and TOLEDO and DETROIT,
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PARLOR CHAIR CARS ON DAY, and SLEEPERS ON
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For full information, Tickets, Sleeping Car Space, &c., Inquire of or Address,
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J. G. Mason, City Passenger Agent, Cincinnati, O.

Or General Passenger Agent's Office, - No. 200 W. Fourth St., Cincinnati, O.

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Vice-Pres't & Gen'l Manager.

CHAS. H. ROCKWELL,
Gen'l Pass'r & Ticket Agent.

A EASTERN FLOUR MILL OPERATED BY ELECTRIC MOTORS.

The Laramie Milling and Elevator Company's flouring mill is operated entirely by electric power, and a recent description of the plant, given to the electrical world by Mr. R. M. Jones, the manager, contains some valuable data and hints on this method of power application to this particular purpose.

The mill is a fine specimen of design and workmanship throughout. Its capacity is 100 barrels of flour per day, and it turns out work in this proportion regularly, without crowding. The building is of stone, 36x48 feet inside, and is four stories high; basement 10 feet, first floor 12 feet, second floor 13 feet, and third floor 14 feet 6 inches between joists.

The mill is equipped with steam heat, the Edison electric light and Sprague electric motors. These motors are used exclusively for the power to drive the mill. There is no engine or boiler house about the place, as it was intended from the first that motors should be used, and since the mill has been in successful operation for more than a month, and as all parties interested are entirely satisfied with the power now in use, it is not probable a change will ever be made in this respect. The mill machinery consists of seven double sets of rolls, 7x18 inches each, with purifying machinery of a capacity equal to the rolls. The system is the "gradual reduction," and, according to Mr. Jones, produces results as to yield and quality of product equal to any mill of like capacity in existence.

The power is divided in units of 25 h. p. each. One motor in the corner of the building, drives all purifying machinery on the floors above, also the wheat (cleaning) machine, and all elevators and conveyors, which, if stretched out in one line, would measure over a mile in length; the other motor runs the seven double sets of rolls and the flour packers.

From the experience gained, Mr. Jones would advise mill builders who use electric motors to sub-divide their power into three units, by taking all wheat cleaning and scouring machines, and all elevators and conveyors running directly in their interest, from the purifier line, and to apply a motor of proper capacity directly to them by means of a countershaft. This he would suggest, owing to the intermittent use of these machines, especially where the wheat-dampening process is used.

As to the arrangement of the Laramie Mill, with all the power on the roller floor, one motor belted up through one floor to the purifier line, and the other belted to the roller line, he maintains that he has a lower percentage of loss of indicated power on the engine cylinder in the generating station (including the friction of generating machinery and the various resistances and other losses) than he would obtain from an engine placed in a building prepared for it alongside the mill, counting the necessary loss by friction in running long shafting and belts, as is invariably done. The arrangement just suggested, a subdivision of power into three units, would reduce the friction and be preferable, as cleaning machines could remain idle much of the time; and besides the present quantity of shafting and belts would necessarily be reduced.

The motors in the Laramie Mill run at constant speed. In fact, Mr. Jones states, they are more constant as to any sudden change than the best regulated automatic engines in the market. The only change they are subject to is a gradual, but slight, increase in speed from the time of starting until the day's run is complete. This increase appears to be due to an increase in the temperature of the armature, and has been found to be in these proportions: Thus at starting, the roller line shaft makes 219 revolutions per minute, which is the right speed. At night the speed has increased to 224 revolutions, and at intervals during the day the speed varies in almost true proportion, which result is more uniform than engines will give.

The motors are wound for 220 volts, but are run at 226 volts, and it requires in current an average of 150 amperes to drive the mill to its capacity. A variation of pressure on these machines will vary the speed in about the same proportion as steam pressure will vary the speed of the best engines. So far as observed, a variation of one volt electrical pressure will produce about the same effect on the motors, as one pound of steam pressure would vary a good automatic engine. However, it is easy to control electrical pressure to within one or two volts, while it is difficult to control steam pressure within the limit of a few pounds, which shows that the motor is superior as to variable changes in speed.

Mr. Jones has recently placed a 20 h. p. Sprague motor in the Laramie Rolling Mills, which now runs about 120 feet of 3-inch shafting, containing many heavy pulleys. This shaft drives four spike machines, two bolt headers, two nut presses and a large quantity of threading and tapping machinery, including some emery heads. It takes less than 20 h. p. to drive this shaft, and it delivers a uniform speed to all machines. Previous to placing this motor, the power was transmitted nearly 300 feet by belts and shafting, and probably required nearly 50 h. p. to do the same work now done with less than 20.

It is also known that at the rolling mill the men are doing one-half more work now than by the old belt system, owing to the fact that during much of the time speed was so slow, caused by low steam, that machines had to be shut down.

THINGS WORTH KNOWING.

A NEW ANTI-CORROSIVE.—Recent experiments would seem to indicate that soapstone may be very profitably employed in the painting of iron or steel, or other surfaces liable to sudden changes of an atmospheric nature. It is not affected by heat or cold or the action of ordinary acids. In connection with a quick drying varnish ground soapstone is said by an English iron trade paper to produce a paint of great covering capacity and firmness, and presenting an enamel-like surface. For painting the interiors of iron and steel ships peculiarly liable to atmospheric influences it is said to be excellent. It is equally efficacious in preserving wood-work from rotting and sandstone from decay.

TO PREVENT SLIPPING OF BELTS.—Edwin A. Kimball, instructor in the shops at the University of Illinois, says on this subject: "I do not know that washing soda is not as good as castor oil, for I never used the former, but I do know that castor oil is effective and

safe in the hands of a competent person. There is no occasion to soak a belt in any sort of oil. A little applied to the surface is sufficient. There is nothing which I have ever tried which is so effective as castor oil, especially for wood-working machinery belts. The way to apply it is to let it run from a bottle in a small stream on the belt while in motion, commencing at one edge of the belt, moving the stream over a little at every full travel of the belt, until the whole width of the belt has received its portion. I know of belts that have been treated in this way for years, and they are whole yet, and doing their work without a murmur."

A POINTER For Advertisers.

Chicago, July 18, 1888.

To Whom it may Concern:

We contracted with Mr. E. Harrison Cawker, publisher of the "UNITED STATES MILLER," Milwaukee, Wis., for advertising in his paper for March, April, May and June, 1888, on a guarantee of editions of 10,000 copies each month, we to have the privilege of a personal inspection of each issue, before mailing. We have duly inspected said editions and are thoroughly satisfied that Mr. Cawker has fulfilled his contract in every particular, and we have extended our order for advertising in his paper.

We believe the trade generally, judging from our experience, will serve its own interests by advertising in the UNITED STATES MILLER.

Yours truly,

Garden City Mill Furn. Co.

E. P. GREEN, Sec'y.

WANTED!

We want the addresses of

HEAD MILLERS

in all mills having a capacity of 150 barrels of flour per day or more with short description of mill, system, power used, etc.

We want the addresses of

MILLWRIGHTS

who take contracts for millbuilding, repairing, etc., and who would take orders for flour mill, elevator and malt house machinery and supplies.

We want the addresses of

ENGINEERS

having charge of large engines in flour mills, elevators, breweries and malt houses.

NO OTHER RAILWAY IN THE NORTHWEST

has in so short a period gained the reputation and popularity enjoyed by the **WISCONSIN CENTRAL LINE**. From a comparatively unknown factor in the commercial world, it has been transformed to an independent, influential, grand **Through Route**, with magnificent depots, superb equipment and unsurpassed terminal facilities. Through careful catering to details, it has won for itself a reputation for solidity, safety, convenience and attention to its patrons, second to no railroad in the country. **Pullman** sleepers, models of palatial comfort, dining cars in which the cuisine and general appointments are up to the highest standard, and coaches especially built for this route, are among the chief elements which have contributed towards catering successfully to a discriminating public. Located directly on its line, between **Chicago and Milwaukee**, and **St. Paul and Minneapolis**, and **Chicago and Ashland and Duluth**, are the following thriving cities of Wisconsin and Michigan: **Burlington, Waukesha, Fond du Lac, Oshkosh, Neenah, Menasha, Stevens Point, Chippewa Falls, Eau Claire, New Richmond, Hurley, Wis., Ironwood, Mich., and Bessemer, Mich.**

For details, information, lowest current rates, berths, etc., via this route, to any point in the **Northwest**, apply to nearest Ticket Agent, or address

WM. S. MELLEN, JAMES BARKER,
General Manager. Gen'l. Pass. & Ticket Agt.
MILWAUKEE.

A NIGHT IN CHICAGO —AND A— NIGHT TRAIN —TO— INDIANAPOLIS. —THE—

MONON ROUTE
LOUISVILLE, NEW ALBANY & CHICAGO KY.
HAS A TRAIN

Leaving Chicago
AT 11:40 P. M.

EVERY NIGHT (Sundays included), with THROUGH COACHES and PULLMAN SLEEPERS, ARRIVING INDIANAPOLIS at 7:30 A. M.

ADDITIONAL TRAINS leave Chicago for Indianapolis at 8:15 A. M. and 8:20 P. M.

Ask your home Agent to make your tickets read via the **MONON ROUTE**, so your comfort may be assured. For further information, Sleeping Car Berths, etc., call at

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R. MILLER, General Manager. **A. V. H. CARPENTER,** Gen'l Pass. and Tkt. Agt.
J. F. TUCKER, Asst Gen'l Manager. **GEO. H. HEAFFORD,** Asst Gen'l Pass. and Tkt. Agt.
MILWAUKEE, WISCONSIN.

For information in reference to Lands and Towns owned by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY COMPANY, write to H. G. HAUGAN, Land Commissioner, Milwaukee, Wisconsin.

THE CHICAGO AND NORTH-WESTERN RAILWAY.

Represents the Centres of Population in

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Its TRAIN SERVICE is carefully arranged to meet requirements of local travel, as well as to furnish the most attractive routes for through travel between important

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Its EQUIPMENT of Day and Parlor Cars, Dining and Palace Sleeping Cars is without rival.

Its ROAD-BED is perfection, of stone-ballasted Steel.

The North-Western is the favorite route for the Commercial Traveler, the Tourist and the Seekers after New Homes in the Golden Northwest.

Detailed information cheerfully furnished by

JNO. S. GEORGE, Commercial Agent, Milwaukee, Wis.
MARVIN HUGHITT, H. C. WICKER, Vice-Pres't and Gen'l Manager. Traffic Manager.
E. P. WILSON, Gen'l Passenger Agent.

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TO ASHLAND, SUPERIOR and DULUTH, To all Fox River Manufacturing Cities AND

The Lumbering Districts of Northern Wisconsin and Michigan.

SPORTSMEN The best Fishing and Hunting in the NORTHWEST reached by the ASHLAND ROUTE. Send to the General Passenger and Ticket Agent for Descriptive and Illustrated Publications, Maps, Folders, Time Cards and General Information.

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C. L. RYDEK, ERNEST VLIET, General Agent, Gen'l Pass. & Tkt. Agt.

H. F. WHITCOMB, GEO. S. MARSH, General Manager, Gen'l Pass. & Tkt. Agt.
MILWAUKEE.

Milwaukee & Northern R. R. SHORT LINE

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CHICAGO, MILWAUKEE, Menasha, Neenah, Appleton, Depere, Green Bay, Ft Howard, Marinette, Menominee, IRON MOUNTAIN.

EXPRESS TRAINS DAILY EACH WAY BETWEEN Chicago, Milwaukee, Appleton and Green Bay.

EXPRESS TRAINS DAILY EACH WAY BETWEEN CHICAGO, MILWAUKEE, Menominee and Iron Mountain.

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TESTING FLOUR GRADES.

The good old-fashioned way the millers had of determining what kind of bread their flour would make, was to take a sample home for trial in the kitchen. But this was always unsatisfactory, and the fact was not always developed that the flour had a fair chance. The Minneapolis millers, a number of years ago induced Capt. A. W. Howard, who was a flour expert, to take occasional samples of their output and test its baking value. An attempt was made at one of the large bakeries to get the work done, but it was found to be absolutely impossible to get the work done so that it would amount to very much as a test. But the prime mover in the work was not discouraged, and it finally resulted in an institution which is original to the city, there being nothing else like it in the world. The concern is devoted to making these flour-baking tests and to furnishing daily records and reports of these tests. As not only the Minneapolis mills but a number in different parts of the country are in the scheme, it is seen that this establishment has become quite a large one. Mills at Milwaukee, La Crosse, Mandon, Mankato, Faribault and other places have their flour tested in this way. Two loaves of bread is furnished each mill, and so the testing room is quite like a bake-shop. It requires the services of a number of employes and the aid of a peculiar outfit. The main feature of the business is that it gives comparative tests. Each mill is given a number and is known on the record book and in the testing room only by number, so that identity of sample is not disclosed to any one in such a way as to compromise anybody's interests. All samples of like grades are treated under exactly the same circumstances, with respect to the process of baking, degree of heat, the amount of materials used, etc. It would be quite impossible under these circumstances the same grades of flour would produce different qualities of bread. An accurate record is kept of the manipulations of the dough, its color and strength, also the weight of the ingredients of the loaf, temperature of sponging box, time for rising of sponge and doughs, time for kneading, temperature of ovens, time for baking, size and color of loaf with remarks as to quality. Ranged along one side of the long room are a number of ovens contrived for the purpose. They have revolving bottoms, thereby securing uniform heat. They are registered by thermometers, and are regulated by turning on more or less gas. These are kept under perfect control, and when the

loaves come forth they have been subjected to absolutely the same conditions. The baking qualities of the flour tested are shown in the color and size of the loaf. The measurement indicates the rising or strength. The loaves are weighed and measured out and laid out on a table. Only two grades are tested, the patents and the bakers. The whitest and best patent loaf is selected as No. 1. Each patent or straight is then compared with it. Three persons make it their duty to decide as to color. The bread samples are neatly put up in white wood boxes with slide covers, the loaf being inclosed in cotton batting, and if to go a long distance it is also inclosed in tin foil or oiled paper. Now the value of these tests is that they enable the miller to know how even and how regular is his output, and to demonstrate conclusively the relative and intrinsic value of his flour in any market. These reports are useful, too, to show how the medium or bakers' grades are running. He can figure it down exactly whether he is making his grades too good or too poor. In making the mixtures of different grades of wheat, in cleaning from old crop to new, in changing machinery, in experimenting or granulating, in milling to certain grades, in running with irregular or insufficient power, these tests and reports are of use to him. In case of a complaint from a customer, the miller can refer to the test and find out whether it is founded on fact or not. The baking test for flour is said to be the most perfect in the world.

HON. EDMUND JUSSEN, U. S. Consul at Vienna, Austria, in a letter dated May 17, says: When I examined the details of the export trade from Trieste and Fiume to Rio, I was surprised to find quite a considerable quantity of flour as one of the prominent articles of the list; 11,300 barrels of flour were exported from Trieste to Rio, and 9,108 barrels from Fiume during 1887. By what strange combination of commercial possibilities it was made profitable to attempt a competition on the part of Austria-Hungary with the United States in the article of flour in a market, so to say, next door to our wheat fields and world-renowned flour mills, with the important factor of transportation decidedly in our favor and against the Austrian exporter, I was at first at a loss to conjecture. I was inclined to believe that the only plausible explanation was to be found in the sadly reduced condition in our shipping, a condition incapacitating our exporters and manufacturers to take advantage of the

close proximity of South America markets as against the European exporter with a subsidized and large merchant marine at his command. I found, however, upon inquiry that this export of flour from Trieste and Fiume was due entirely to the superior quality of the Hungarian wheat out of which this flour is manufactured. It is claimed that in the so-called "Banat," a famed wheat district of Hungary, a quality of wheat is grown which has certain chemical properties not found in any wheat raised elsewhere, and that the flour made from this "Banat" wheat will produce the finest Vienna bread in a perfection which can not be reached with any other flour, not even with the very finest produced by American mills. This superiority of the "Banat" wheat also accounts for the fact that considerable quantities of Hungarian flour are exported to England.

MILL BUILDING.

It is a matter of surprise to the uninitiated that the milling business supports so very many mill-furnishers. Indeed there are more good people now in the business than in the "boom" times of about five years ago. The reason is very simple and plain. Very many new mills were built and old ones refitted with a largely increased number and different styles of machinery which is constantly wearing out and needing repairing; besides this the country is fast increasing in population, and the foreign trade for flour is constantly growing, thus necessitating the construction of large new mills. In addition to this, the fast growing great West is rapidly settling up and becoming more thickly populated, and towns of a very few hundreds of population are offering liberal premiums to mill men who will put up and operate a fifty or seventy-five barrel mill to supply the surrounding country. These towns readily see that a good mill is a valuable acquisition, attracting farmers who might otherwise patronize other towns nearest to them. All these facts tend to increase rather than to diminish the demand for mill machinery, and the mill furnishers may rest assured of a steady demand for meritorious machinery. So long as a miller expects to continue in a profitable business he must use the best machinery.—*Millers Review*.

THE publisher of the UNITED STATES MILLER is desirous of having the names and addresses of Head Millers, Millwrights and Head Engineers in all mills having a capacity of 150 bbls. per day or more.

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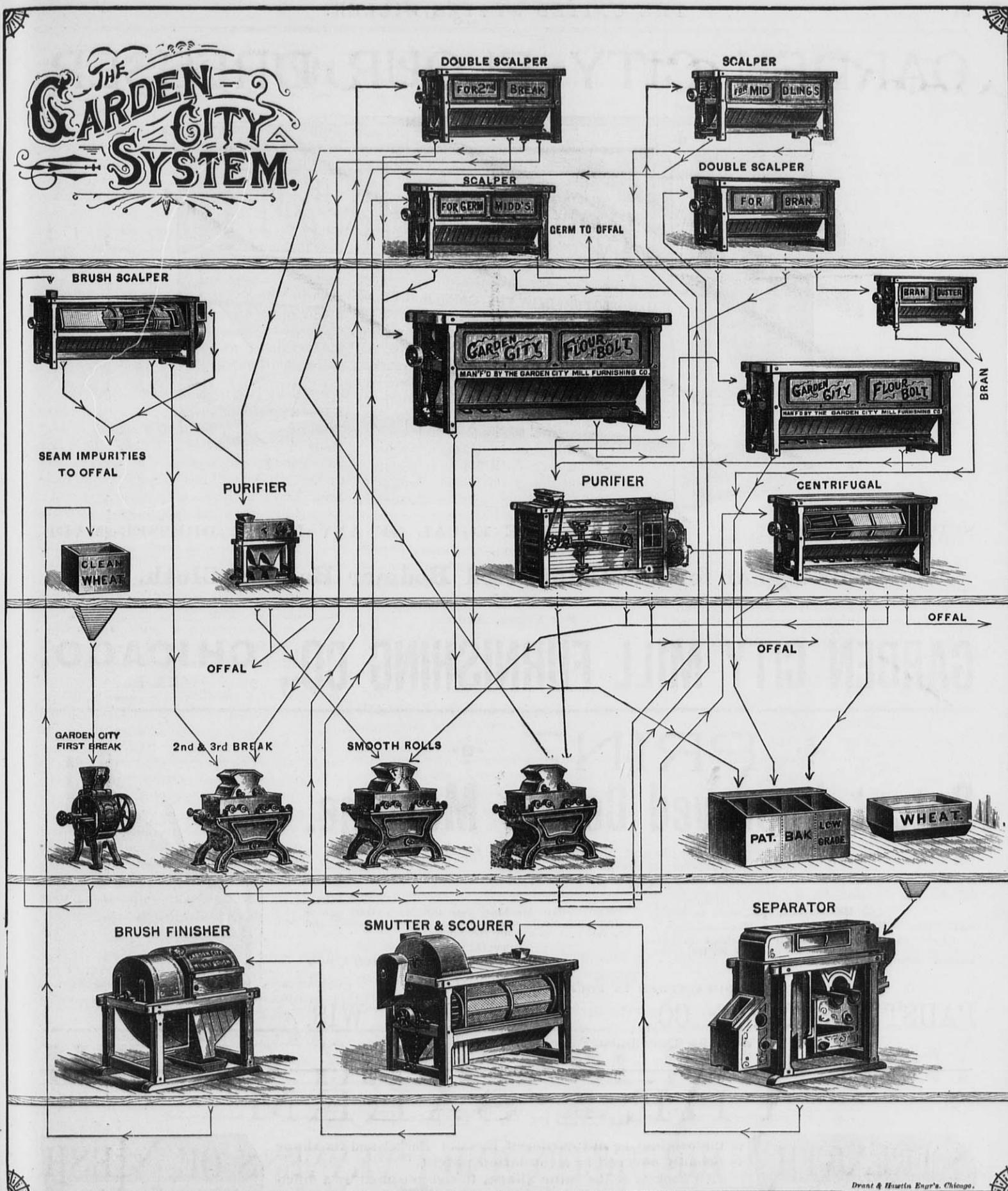
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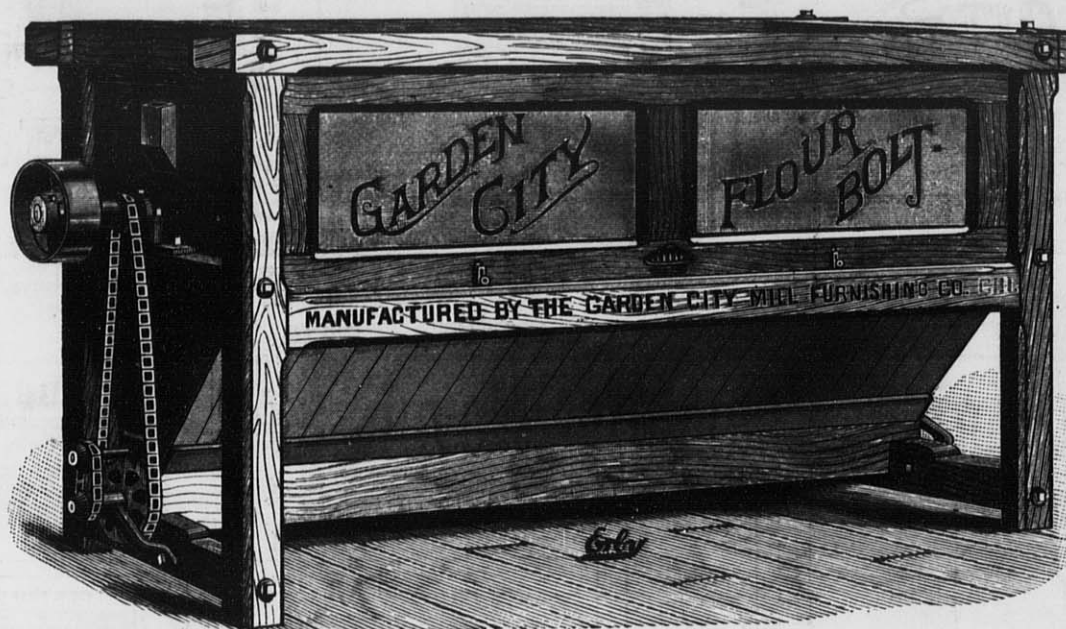
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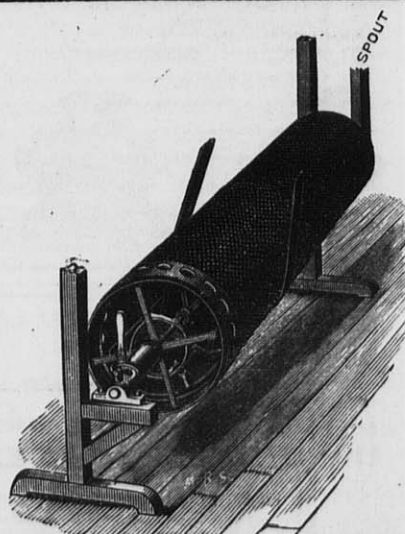
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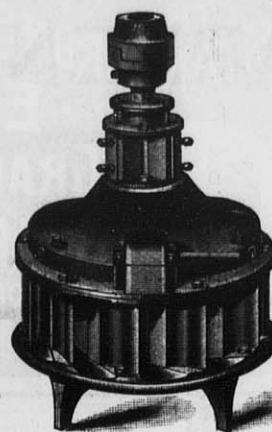
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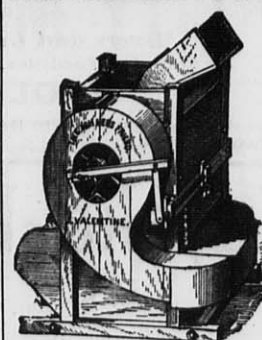
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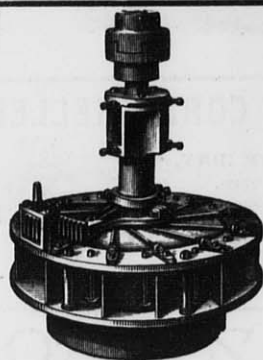
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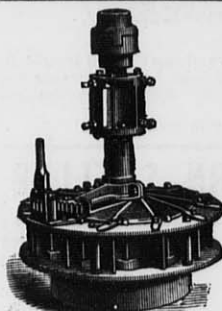
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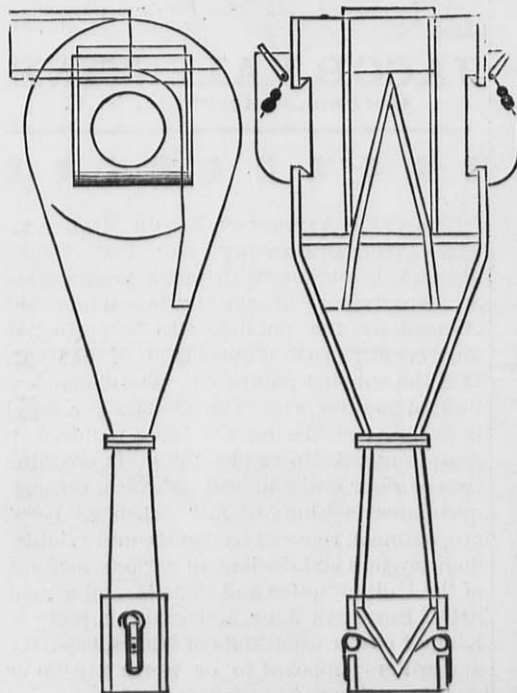
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2.—Lists of Corn, Oatmeal, Rice, Feed Mills, etc.

9.—Millers whom we believe to be worth Ten Thousand Dollars or more are indicated.

3.—List of Grain Elevators and Warehouses.

4.—List of Millwrights.

5.—List of prominent American Flour and Grain Brokers.

6.—List of Foreign Flour and Grain Importers.

7.—List of Mill Furnishers, etc.

8.—Statistics valuable to the Trade.

This directory gives the address of 16,062 Flour Mills in the United States and 1,634 in the Dominion of Canada. The additional lists of Feed, Corn, Barley, Oatmeal and Rice Mills, Elevators and Warehouses, Millwrights, Flour and Grain Brokers, Importers, etc., adds to the number of addresses several thousand. The COUNTIES are included in the address, and in cities, the street and number in most instances. We have had valuable aid in compiling this work from Secretaries of Boards of Trade, of Bureaus of Labor Statistics and Manufactures, from Railroad and Steamship Companies, from the milling and commercial press generally, and from mill and grain elevator owners themselves. That the work is perfect, we do not claim, for in the nature of things that is an impossibility, but as it is, it is indispensable to all desiring to reach the flour and grain trade of this country, and is well worth the price asked. The total number of addresses contained in this volume is 22,827.

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1888 Edition, just out, March 1, 1888, revised, amended and added to, to meet all the requirements suggested by the members of the Millers' National Association, who use more copies of this Code, than of all others combined.

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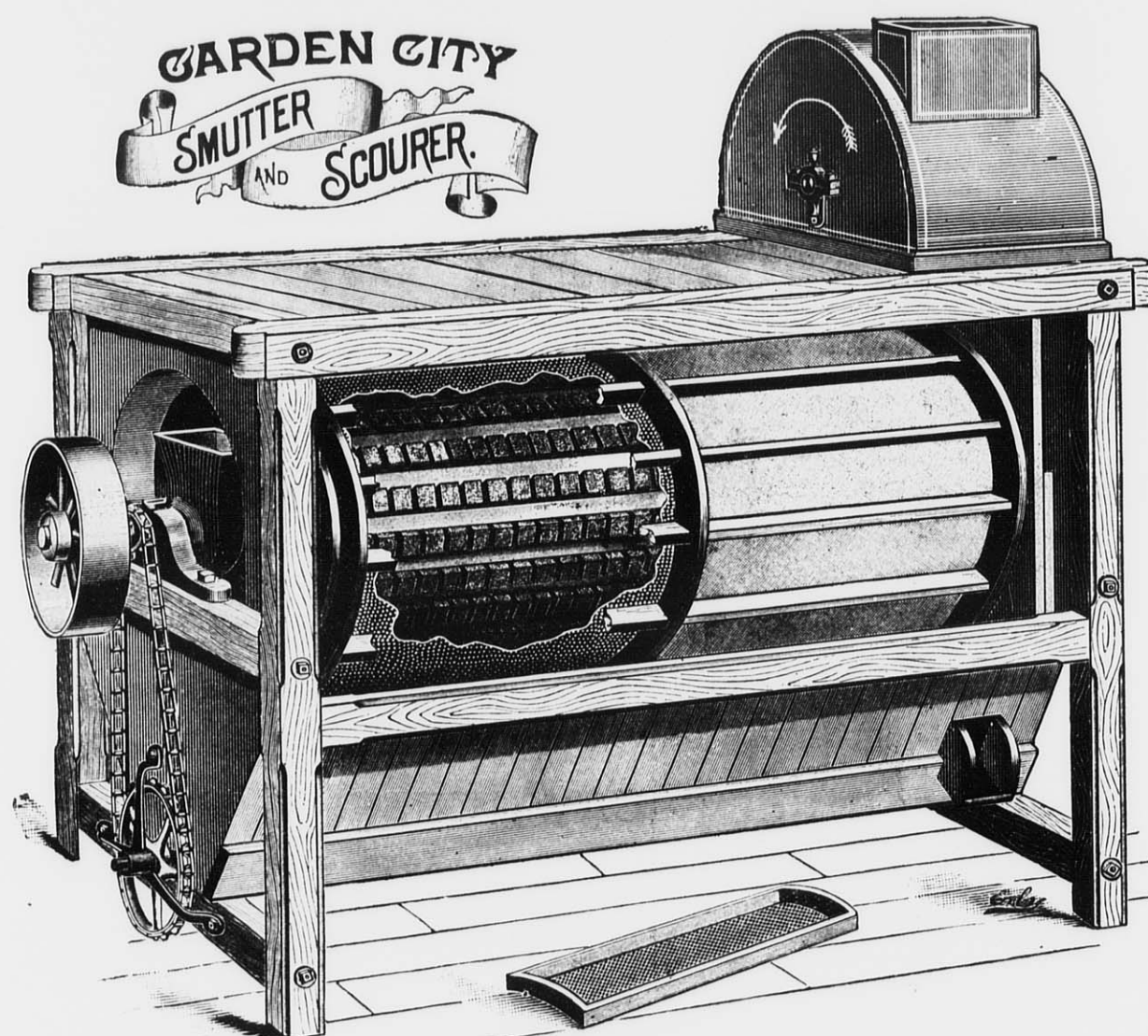
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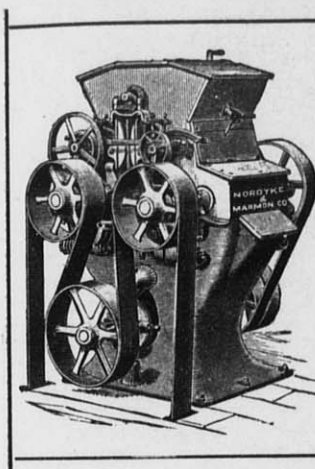
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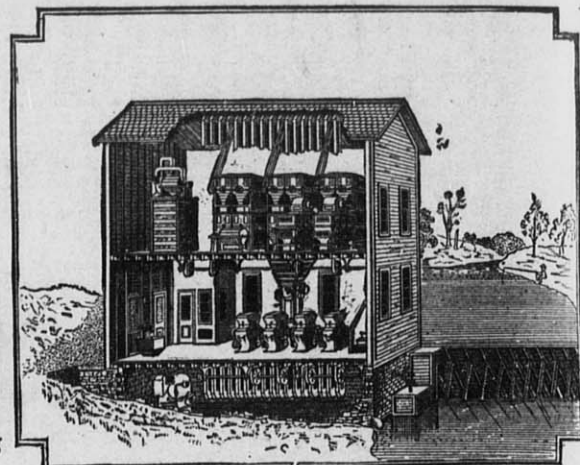


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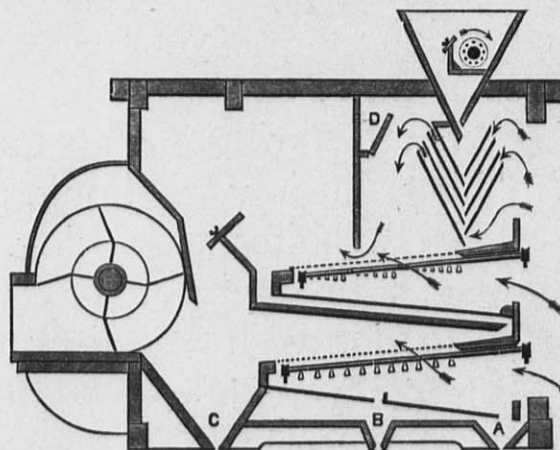
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